

HYBRID CHARGE COUPLED CMOS IMAGE SENSOR

ABSTRACT OF THE DISCLOSURE

An active pixel that incorporates elements of CCD technology into a CMOS image sensor is disclosed. Each pixel includes a reset transistor that resets a sense node. The active pixel includes an amplification transistor that is modulated by the signal on the sense node. A light sensing element, such as a photodiode, is provided and its signal is selectively read out by a transfer gate, selectively stored by a memory gate, and finally read out onto the sense node by a control gate. Underneath the memory gate is a memory well that acts as memory for the pixel and stores the signal output by the light sensing element.